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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/820,237  
Filing Date: April 05, 2004  
Appellant(s): TSYRGANOVICH, ANATOLIY V.

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**Technology Center 2100**

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Darien K. Wallace  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed September 10, 2007 appealing from the  
Office action mailed August 8, 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,475,286	Jackson et al	7-1993
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5,648,703	George	3-1995
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Pspice (<http://www.orcad.com/psipdead.aspx>) (1985)

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 55 and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Jackson et al (US Patent 5475286).

As to claim 55, Jackson discloses a method comprising: generating a sawtooth signal (column 4, lines 46-48), wherein the sawtooth signal has amplitude (inherently each pulse or signal has a certain amplitude); generating a correction signal with no discontinuities (Figure 3, part F), wherein the correction signal has a vertical retrace time tvr (Figure 3, marked as retrace) and a vertical active time tva (Figure 3, marked as trace); modulating the amplitude of the sawtooth signal using the correction signal to generate a deflection signal (column 7, lines 13-16); and amplifying the deflection signal to generate a deflection current signal (column 7, lines 10-12), wherein the deflection current signal is not distorted when the correction signal transitions from the vertical retrace time tvr to the vertical active time tva (column 1, lines 66-67 and column 2, lines 1-2; since any existing distortion

in the raster (deflection current) is corrected, the current also can not be distorted in the points where the signal transitions).

As to claim 61, Jackson discloses the method wherein the generating the correction signal comprises generating a higher-order signal (Figure 3, since the signal is parabolic it is already considered a higher order i.e.  $x^2$ ).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 60, 62-67, 69-72 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson et al (US Patent 5475286) in the view of George (US Patent 5648703).

As to claim 60, Jackson teaches all the limitations disclosed in claim 55 and the horizontal correction signal (column 2, lines 59-63), however he does not teach the sawtooth signal being a horizontal sawtooth signal. George teaches a deflection correction signal having a horizontal sawtooth signal (column 2, lines 40-52). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to also adjust the horizontal sawtooth current as taught by Goerge in the Jackson's raster correction circuit (similarly to the vertical sawtooth signal) because this would prevent from mis-centering (column 2, lines 40-52). Both sawtooth signals i.e. vertical and horizontal, are useful in adjusting the displayed picture, therefore it would

have been mostly a design choice to generate either vertical or horizontal sawtooth signals, or even both (having both components).

As to claims 62 and 72, Jackson discloses a horizontal deflection generator, comprising: a circuit that generates a sawtooth signal having an amplitude (column 4, lines 46-48); and means for modulating the amplitude of the sawtooth signal using a horizontal correction signal to generate a horizontal deflection current signal (column 1, lines 54-57), wherein the horizontal correction signal has no discontinuities (Figure 3, part F), wherein the horizontal correction signal has a vertical active time tva (Figure 3, trace) and a vertical retrace time tvr (Figure 3, retrace), and wherein the horizontal deflection current signal is not distorted after a transition from the vertical retrace time tvr to the vertical active time tva. Jackson however, does not teach that the sawtooth current is horizontal (column 1, lines 66-67 and column 2, lines 1-2; since any existing distortion in the raster (deflection current) is corrected, the current also can not be distorted in the points where the signal transitions). George teaches a deflection correction signal having a horizontal sawtooth signal (column 2, lines 40-52). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to also adjust the horizontal sawtooth current as taught by Goerge in the Jackson's raster correction circuit (similarly to the vertical sawtooth signal) because this would prevent from mis-centering (column 2, lines 40-52). Both sawtooth signals i.e. vertical and horizontal, are useful in adjusting the displayed picture, therefore it would have been mostly a design choice to generate either vertical or horizontal sawtooth signals, or even both (having both components).

As to claim 63, Jackson teaches the horizontal deflection generator wherein the horizontal correction signal is a continuous signal (Figure 3, part F).

As to claims 64 and 74, Jackson teaches the horizontal deflection generator wherein the means comprises an amplifier (column 1, lines 54-58), wherein the means generates a modulated sawtooth signal, and wherein the amplifier generates the horizontal deflection current signal by amplifying the modulated sawtooth signal (column 1, lines 54-67), and George teaches the sawtooth signal being horizontal (column 2, lines 40-52).

As to claim 65, Jackson indirectly teaches the horizontal deflection generator wherein the amplifier has a limited frequency bandwidth (even though Jackson does not explicitly state this limitation, it is inherent that electronical devices have certain signal bandwidth since no device can have an infinite band of operation).

As to claim 66, Jackson teaches the horizontal deflection generator wherein the horizontal deflection generator is part of a raster display system (since the horizontal deflection circuit is used to improve the picture of the raster display, therefore it is inherently its part, i.e. part of the circuitry).

As to claim 67, Jackson teaches the horizontal deflection generator wherein horizontal deflection generator comprises an integrated circuit (Figure 1, element U1), however he does not teach that all the elements of the correction circuit are integrated in a form of a single circuit. It would have been obvious to one having ordinary skill in the art at the time the invention was made to integrate all the elements of the circuitry together, since it is held that rearranging parts of an invention involves only routine skill

in the art. *In re Japikse*. 86 USPQ 70. Furthermore, nowadays integration is very common because of the significant devices' size reduction.

As to claim 69, Jackson teaches a circuit generating the correction signal, and wherein the circuit includes a level shifter (Figure 1, element U2, wherein amplifier is capable of shifting the level of the signal; US Patent 4988927, column 4, lines 45-48).

As to claim 70, Jackson teaches the circuit including an inverter (column 3, lines 43-46).

As to claim 71, Jackson teaches the circuit including a gain controller (column 1, lines 45-50).

5. Claims 68 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson (US Patent 5475286) in the view of George (US Patent 5648703) and further in the view of Pspice (<http://www.orcad.com/pspicead.aspx>). Jackson and George teach all the limitations as disclosed in claim 62, however none of them teaches the horizontal deflection generator being implemented in software. PSpice used for circuit simulation is well known in the art since 1985 (<http://www.orcad.com/pspicead.aspx>), therefore it would have been obvious to one of the ordinary skill in the art during the time the invention was made to implement horizontal deflection circuit as taught by Jackson and George, in the software such as Pspice, because Pspice allows to reflect true signal analysis, without spending money on the expensive circuit parts, furthermore if circuitry does not function properly it is also easier for the designer to find a faulty connection thanks to signal graphs and measurements which can be taken at any node.

***Allowable Subject Matter***

6. Claims 56-59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter:

**As to claim 56**, the prior art fails to teach a method of generating deflection current signal as disclosed in claim 55, wherein the generating the correction signal is performed by combining a first correction signal component with a second correction signal component.

**As to claims 57- 59**, those claims would be allowable by the virtue of their dependency on claim 56.

**(10) Response to Argument**

1. **I (Issue): did the Examiner err in concluding that claims 55 and 61 were rejected under 35 U.S.C 102(b) as being anticipated by Jackson et al (US Patent No. 5,475,286).**

- *In the first argument, the Appellant alleges "Jackson discloses neither (i) a correction signal with no discontinuities, nor (ii) a deflection current signal that is not distorted when a correction signal transitions from a vertical retrace time to a vertical active time". Furthermore the Appellant attempts to justify this allegation*

*by stating that "waveform of figure 3, part F, alone is not used to correct the distorted raster D of figure 2, part A, because it would not correct the distortion that is symmetrically distorted about the vertical center of the raster". (pages 7 and 8)*

The Appellant's first argument has not been found persuasive. The figure 3, part F clearly illustrates a correction signal having no discontinuities. The Appellant also admits that this is one of the signals used in the correction process i.e. "alone is not used". Furthermore, according to the current claim language it is not required that there is only one correction signal used in order to prevent distortion of the raster, therefore it is more than appropriate to allow multiple correction signals. In particular, the method of claim 55, clearly states "comprising" which is open ended, meaning this method is not limited only to those steps currently disclosed in the body of the claim. Furthermore current limitations do not recite that the correction signal with no discontinuities is the only signal used in removing distortions. Consequently, the Examiner selected the correction signal shown in figure 3, part F, as it anticipates claimed limitations, in particular no discontinuities.

- *In the second argument, the Appellant asserts "Jackson does not disclose "the deflection current signal not being distorted when the correction signal transitions from the vertical retrace time tvr to the vertical active time tva" (page 9). Furthermore the Appellant alleges "apparently, the Examiner is arguing that the absence of any distortion in the raster implies that the correction signal used to*

*generate the raster has no distortion when the correction signal transitions from the vertical retrace time to the vertical active time, Jackson does not disclose that the raster is perfectly rectangular but rather discloses that asymmetrical rectangular raster R". Discontinuities are clearly present in the correction signal of figure 5 of Jackson and those discontinuities could cause distortions of a resulting deflection current signal". (page 10)*

The Examiner does not agree with the Appellant's allegations. First of all, the Examiner previously stated that the correction signal has no discontinuities, not distortions as the Appellant alleges. The issue of distortion pertains to the raster display or deflection current signal and not to the correction signal. The main purpose of Jackson's invention is to modulate deflection waveform in order to improve it, i.e. preventing or correcting distortion. Furthermore in figure 2 A, Jackson illustrates the raster, and he identifies D distortion, R corrected raster (i.e. no distortion) and finally P correction modulation. The Appellant alleges that Jackson does not teach perfectly rectangular raster, however the Examiner disagrees. Figure 2A, R illustrates rectangular raster free of any distortions. Moreover, in the last sentence of the quotation cited above, the Appellant alleges that discontinuities could cause distortions, but since the correction signal shown in figure 3, part F, does not have any discontinuations, following the Appellant's reasoning, it should not cause any distortions. Consequently, the Examiner maintains that since the purpose of the correction signal is to eliminate distortions, hence it directly implies that raster is not deformed after trace or retrace

time. Moreover, just for the sake of the argument, if one would assume that correction signal might cause the distortion, then there would be no purpose of having correctional signal as it would worsen raster display instead of improving it.

2. 1 (Issue): did the Examiner err in concluding that claims 60, 62-67, 69-72 and 74 were rejected under 35 U.S.C 103(a) as being unpatentable over Jackson et al (US Patent No. 5,475,286) in view of George (US Patent No. 5,648,703).

- *On page 12, the Appellant asserts that "George also does not teach either (i) generating a correction signal with no discontinuities, or (ii) a deflection current signal that is not distorted when or after the correction signal transitions from the vertical retrace time to the vertical active time".*

The Examiner agrees with the Appellant that George does not teach generating a correction signal with no discontinuities, or a deflection current signal that is not distorted when or after the correction signal transitions from the vertical retrace time to the vertical active time, however those limitations are already taught by Jackson et al, hence George does not have to teach those features.

- *Furthermore, the Appellant alleges that "Jackson and George teach away from generating a correction signal with no discontinuities because each of Jackson and George teaches correction signals having discontinuities" (page 14).*

The Examiner disagrees with this allegation. As previously stated, the Examiner maintains that Jackson teaches the correction signal with no discontinuities, moreover

he also teaches that the raster display is corrected, so that there are no distortions (column 2, lines 1 and 2) i.e. current signal is not distorted after signal transitions from the vertical retrace time to the vertical active time.

3. I (Issue): did the Examiner err in concluding that claims 60, 62-67, 69-72 and 74 were rejected under 35 U.S.C 103(a) as being unpatentable over Jackson et al (US Patent No. 5,475,286) in view of George (US Patent No. 5,648,703) and further in view of Pspice (<http://www/orcad.com/pspiced.aspx>).

- *In the last argument on page 15, the Appellant asserts that Pspice does not teach either (i) generating a correction signal with no discontinuities, or (ii) a deflection current signal that is not distorted when or after the correction signal transitions from the vertical retrace time to the vertical active time".*

The Examiner agrees with the Appellant that Psipce does not teach generating a correction signal with no discontinuities, or a deflection current signal that is not distorted when or after the correction signal transitions from the vertical retrace time to the vertical active time, however those limitations are already taught by Jackson et al, hence Pspice does not have to teach those features.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Angela M Lie



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